

THERMO-MECHANICAL PROPERTY ENHANCEMENT PLIES FOR CVI/SiC CERAMIC MATRIX COMPOSITE LAMINATES

ABSTRACT OF THE DISCLOSURE

A ceramic matrix composite laminate includes at least two directional, continuous ceramic fiber preform lamina each being formed of interwoven or braided fibers. A layer of non-woven mat includes a plurality of chopped ceramic fibers mixed with a bonding agent. The non-woven mat layer is interposed between adjacent directional, continuous ceramic fiber preform lamina to substantially eliminate inter-laminar gaps formed between the adjacent directional, continuous ceramic fiber preform lamina. The additional chopped fiber content improves the interlaminar mechanical and thermo-mechanical material properties of resulting ceramic matrix composite laminate.